



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference T-523	FOR FURTHER ACTION See Form PCT/IPEA/416																									
International application No. PCT/JP2004/005070	International filing date (day/month/year) 08.04.2004	Priority date (day/month/year) 11.04.2003																								
International Patent Classification (IPC) or national classification and IPC																										
Applicant TEIJIN LIMITED																										
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>5</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																									
Name and mailing address of the IPEA/JP	Authorized officer																									
Facsimile No.	Telephone No.																									

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International application No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7, 9-29 as originally filed/furnished
- pages* 8 received by this Authority on 08.11.2004
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 2-9, 13, 16-18, 20, 21, 25 as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1, 11, 12, 14, 15, 19, 22-24 received by this Authority on 08.11.2004
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1-23 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☒ the claims, nos. 10
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	4, 11-25	YES
	Claims	1-3, 5-9	NO
Inventive step (IS)	Claims	15-25	YES
	Claims	1-9, 11-14	NO
Industrial applicability (IA)	Claims	1-9, 11-25	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1: JP 09-256217 A (Nitto Denko Corporation), 30 September 1997			
<p>The inventions set forth in claims 1 to 3 and 5 to 9 lack novelty in the light of document 1 cited in the international search report.</p>			
<p>Claims 1 to 3, 5 and 6</p>			
<p>Document 1 indicates that a photocatalyst is supported by fibers having a fiber diameter falling within the range of 0.1 to 50μm and fiber length falling within the range of 1 to 150mm (claims; paragraphs [0010] and [0014]).</p>			
<p>In the response to the written opinion, the applicant asserts that the average diameter of the fibers obtained by the embodiments of document 1 is 1μm or more, not satisfying the requirement of the invention of this application, but the embodiments only show one example of the embodiment of the invention, and it cannot be said on the basis of the embodiments that document 1 does not disclose fibers with a fiber diameter of 1μm or less.</p>			

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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Claims 7 to 9

In the invention set forth in document 1, the particles of the photocatalyst are roughly the same as those of this application (paragraph [0018]). Therefore the state of contact between the fibers and the photocatalyst in the invention set forth in document 1 is inferred to be the same as the state set forth in claims 7 and 8 of this application.

The inventions set forth in claims 4 and 11 to 14 do not involve an inventive step in the light of document 1 cited in the international search report.

Claim 4

In the field of photocatalysts it is common practice to coat at least part of the surface of a photocatalyst with another inorganic compound, and said feature does not constitute a special feature.

Claims 11 to 14

The fibers set forth in claims 11 to 14 are commonly used as fibers to support catalysts, and are therefore not special.

The invention set forth in claims 15 to 25 is novel and involves an inventive step in relation to the documents cited in the international search report.

A method of producing a fibrous structure for supporting a catalyst which supports a catalyst on organic polymer fibers effectively not including fibers with an average fiber diameter not exceeding 1 μ m and a

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

fiber length not exceeding 20 μ m, wherein said process contains a step of sipping using electrostatic spinning, is not disclosed in any of the documents cited in the international search report, and would not be obvious to a person skilled in the art.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2004-000852 A	08.01.2004	31.05.2002	
(EX, FAMILY: NONE)			

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Page 8, lines 16 to 19 of the description of this application is not consistent with the claims of this application (in the amendments, the applicant states that the content of page 8 of the description has been amended, but the replacement page 8 of the description submitted as an attachment has not been amended).